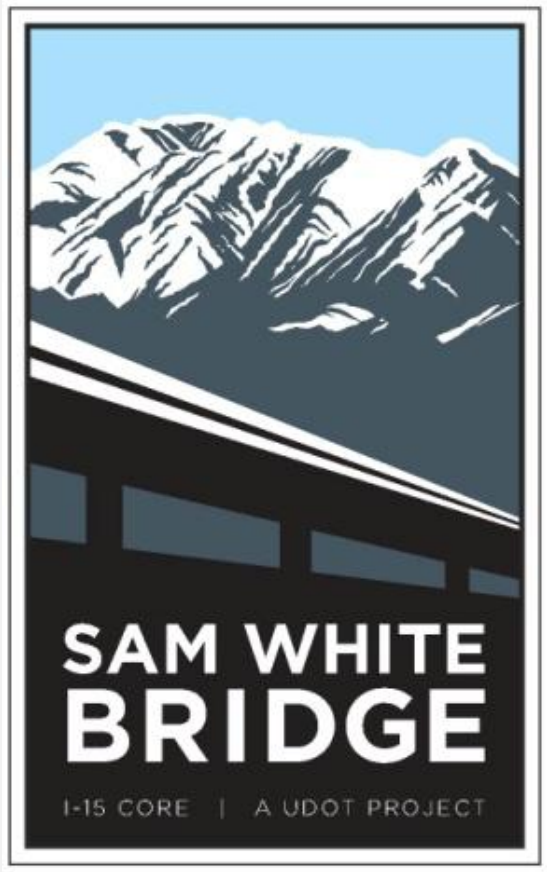

I-15 CORE Design-Builder Perspective Provo River Constructors (PRC)

Bryce Jaynes; Area Engineer

Execution

- Grading and layout
- Temporary abutment construction
- Demolition
- Conventional style super structure
- Conventional style sub-structure
- Deck pour and screed elevation
- Final grading
- Underground utilities in travel path mitigation
- Travel path construction
- One-night transport, placement, and alignment

Execution

GRADING & LAYOUT Design delta is established and the initial grading and alignment is determined for construction of the temporary abutments. Geotech evaluates soils and ground pressure to determine bridge farm pavement section.

Execution

TEMPORARY ABUTMENT CONSTRUCTION Type of temporary abutments are established.

Execution

TEMPORARY ABUTMENT CONSTRUCTION H-pile temporary abutments driven over 90 feet then constructed of 14 x 89 H-pile with cross frames and headers for beam seats.

Execution

TEMPORARY ABUTMENT CONSTRUCTION H-pile temporary abutments driven over 90 feet then constructed of 14 x 89 H-pile with cross frames and headers for beam seats.

Execution

TEMPORARY ABUTMENT CONSTRUCTION Spread footing type temporary abutments are constructed with a concrete-reinforced spread footing with shipping containers and 14 x 89 H-pile headers as beam seats.

Execution

DEMOLITION Existing structure is removed to enable construction of the substructure in the permanent location.

Execution

CONVENTIONAL STYLE SUPERSTRUCTURE Girders are erected in a similar fashion as conventional construction with three notable differences.

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Unlike conventional construction, structures erected offline (off-corridor) do not require lane restrictions or detours.

Contractor accessibility and safety is improved by erecting girders offline during the day in a secure and flat location. This saves time and money while improving ingress and egress.

The substructure and superstructure can be built simultaneously allowing the contractor to accelerate the schedule.

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Execution

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Execution

Execution

CONVENTIONAL STYLE SUBSTRUCTURE Pile caps, abutments, and columns are constructed in the same manner as conventional.

Execution

CONVENTIONAL STYLE SUBSTRUCTURE Substructure and superstructure being built at the same time!

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Execution

Execution

Execution

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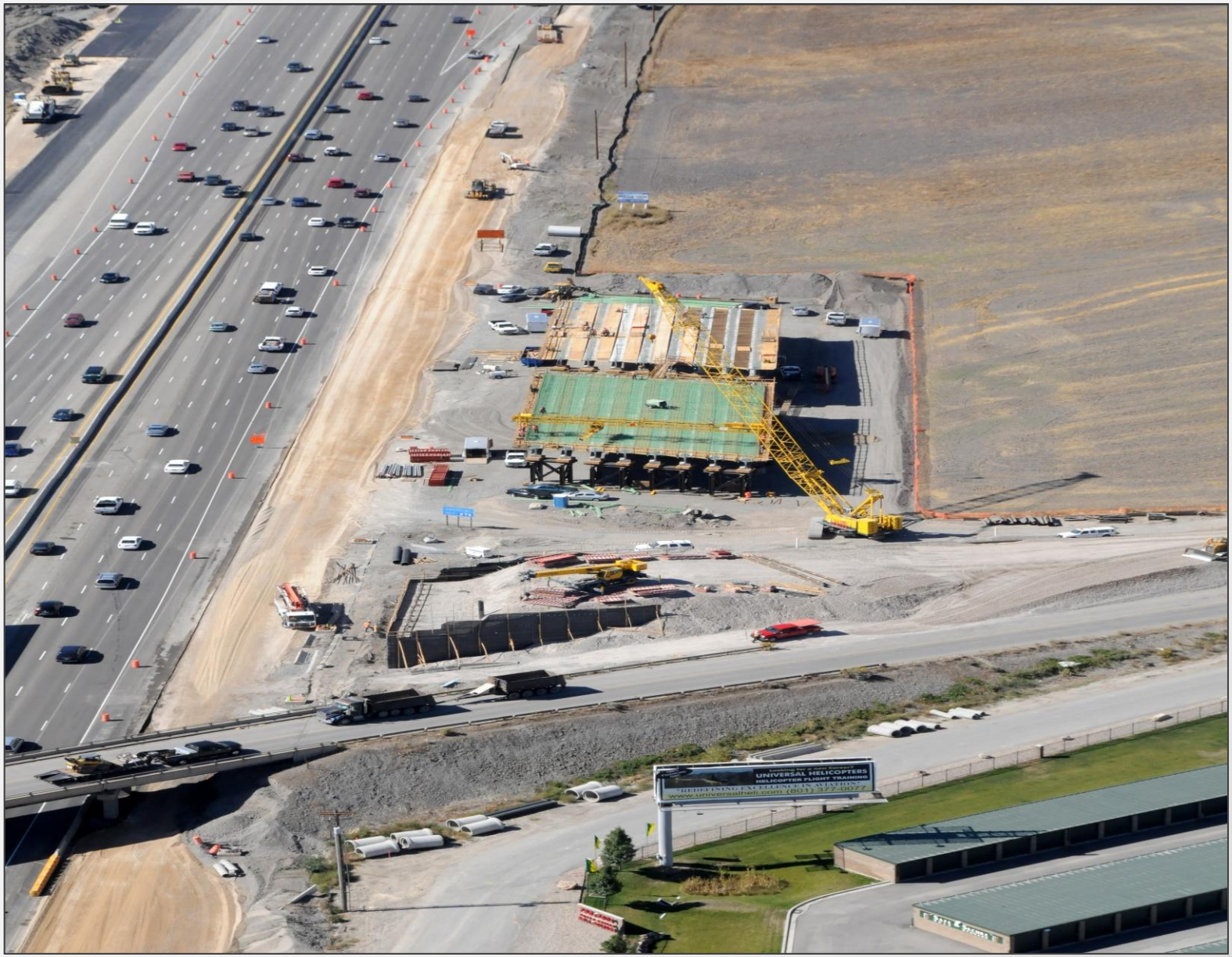
Execution



Execution

DECK POUR AND SCREEDS As the bridge is built in a different location with differing elevations, the screed elevations are modified to match the called-out screeds once the bridge is placed.

Execution

DECK POUR AND SCREEDS Due to the bridge being built offline, the deck can be fully tented, heated and easily accessible even in the winter. Because of the access, the deck was also poured with two bidwells cutting the pour duration in half.

Execution

FINAL GRADING Performed prior to SMPT arrival and set up.

Execution

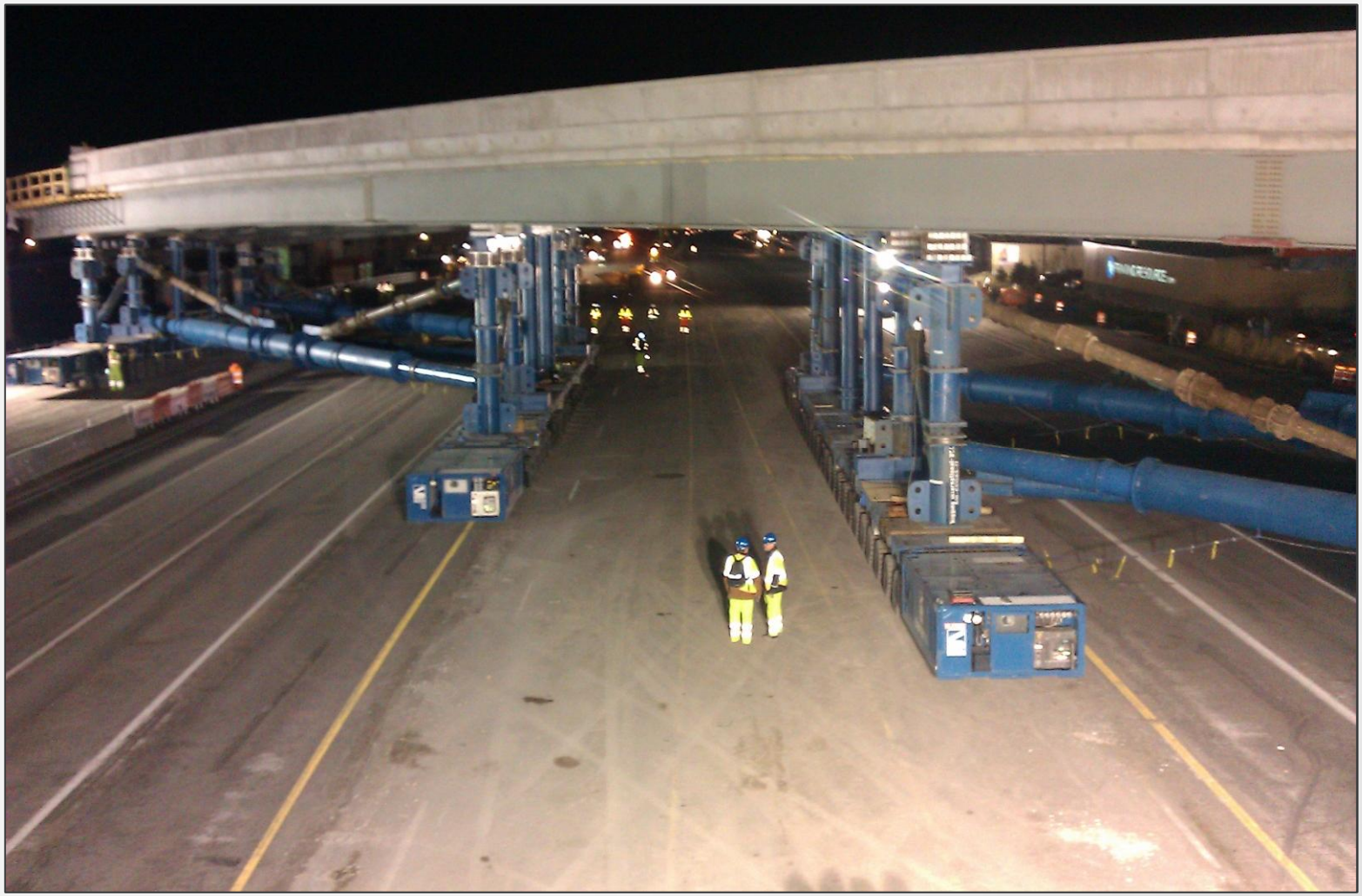
UNDERGROUND UTILITIES IN TRAVEL PATH Depending on type, depth, and location of the utilities, additional plates, fills, and route adjustments are established to protect the third party utilities.

Execution

UNDERGROUND UTILITIES IN TRAVEL PATH Once the location is determined, aerial utilities are mitigated by temporarily relocating or protecting in place.

Execution

Execution



ONE-NIGHT TRANSPORT Freeway is closed, barrier is removed, and transitions are constructed. Bridge is then transported, rotated, and set down in a mere few hours.

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Execution

Execution

Sam White Lane Bridge Placement